

light incident on a transparent face of the device can generally be reflected once off of an opposite interior reflecting layer and then either absorbed or possibly transmitted back out of the device. Device configurations are described in co-pending U.S. patent application No. 09/449,800, <sup>now U.S. Patent No. 6,333,458,</sup> (~~"800 Application"~~) (incorporated herein by reference) which cause any light admitted to a device to be reflected multiple times to increase absorption efficiency.--

**In the Claims:**

Please amend claims 1, 5-8 and 11-24 and add new claim 25 as follows:

1. (amended) An organic photosensitive optoelectronic device comprising:  
two electrodes in superposed relation;  
a hole transport layer between the two electrodes, the hole transport layer formed of a first photoconductive organic semiconductor material;  
an electron transport layer between the two electrodes and adjacent to the hole transport layer, the electron transport layer formed of a second photoconductive organic semiconductor material; and  
at least one exciton blocking layer between the two electrodes and adjacent to at least one of the two electrodes.

5. (amended) The device of claim 1 wherein the first photoconductive organic semiconductor material and the second photoconductive organic semiconductor material are selected to have spectral sensitivity in the visible spectrum.

6. (amended) The device of claim 2 wherein:  
the electron transport layer is 3,4,9,10-perylenetetracarboxylic-bis-benzimidazole (PTCBI);  
the hole transport layer is copper phthalocyanine (CuPc); and  
the exciton blocking layer is 2,9-dimethyl-4,7-diphenyl-1,10-phenanthroline (BCP).

7. (amended) The device of claim 3 wherein:

the electron transport layer is 3,4,9,10-perylenetetracarboxylic-bis-benzimidazole (PTCBI);

the hole transport layer is copper phthalocyanine (CuPc); and

the exciton blocking layer is selected from the group consisting of 4,4',4''-tris{N,-(3-methylphenyl)-N-phenylamino}triphenylamine (m-MTDATA) and polyethylene dioxythiophene (PEDOT).

8. (amended) The device of claim 1 wherein the electron transport layer, the hole transport layer, and the at least one exciton blocking layer are disposed between two parallel planar reflective surfaces which form a waveguide

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11. (amended) A stacked organic photosensitive optoelectronic device comprised of a plurality of photosensitive optoelectronic subcells wherein at least one subcell comprises:

two electrodes in superposed relation;

a hole transport layer between the two electrodes, the hole transport layer formed of a first photoconductive organic semiconductor material;

an electron transport layer between the two electrodes and adjacent to the hole transport layer, the electron transport layer formed of a second photoconductive organic semiconductor material; and

at least one exciton blocking layer between the two electrodes and adjacent to at least one of the two electrodes.

12. (amended) The device of claim 11 wherein the electron transport layer includes 3,4,9,10-perylenetetracarboxylic-bis-benzimidazole (PTCBI) and the hole transport layer includes copper phthalocyanine (CuPc).

13. (amended) The device of claim 11 wherein the at least one exciton blocking layer includes 2,9-dimethyl-4,7-diphenyl-1,10-phenanthroline (BCP) and is between the electron transport layer and the electrode adjacent the at least one exciton blocking layer.

14. (amended) The device of claim 1.1 wherein the at least one exciton blocking layer is selected from the group consisting of 4,4',4''-tris{N,-(3-methylphenyl)-N-phenylamino}triphenylamine (m-MTDATA) and polyethylene dioxythiophene (PEDOT), and is between the hole transport layer and the electrode adjacent the at least one exciton blocking layer.

15. (amended) An organic photodetector comprising:  
a cathode and an anode in superposed relation;  
a plurality of pairs of a hole transporting layer adjacent to an electron transporting layer, the pairs disposed between the cathode and the anode; and  
an exciton blocking layer disposed between one of the cathode and the anode, and the plurality of pairs.

16. (amended) The photodetector of claim 15 wherein the exciton blocking layer is disposed between the anode and the plurality of pairs.

17. (amended) The photodetector of claim 15 wherein the exciton blocking layer is disposed between the cathode and the plurality of pairs.

18. (amended) The photodetector of claim 15 wherein the exciton blocking layer comprises 2,9-dimethyl-4,7-diphenyl-1,10-phenanthroline (BCP).

19. (amended) The photodetector of claim 15 wherein the exciton blocking layer is selected from the group consisting of 4,4',4''-tris{N,-(3-methylphenyl)-N-phenylamino}triphenylamine (m-MTDATA) and polyethylene dioxythiophene (PEDOT).

20. (amended) The photodetector of claim 15 wherein the hole transporting layers and the electron transporting layers of the plurality of pairs are selected to have spectral sensitivity in the visible spectrum.